Nov. 15, 1927.

R. G. DEMING

1,649,578

EDUCATIONAL DEVICE

Filed Dec. 8, 1926

2 Sheets-Sheet 1

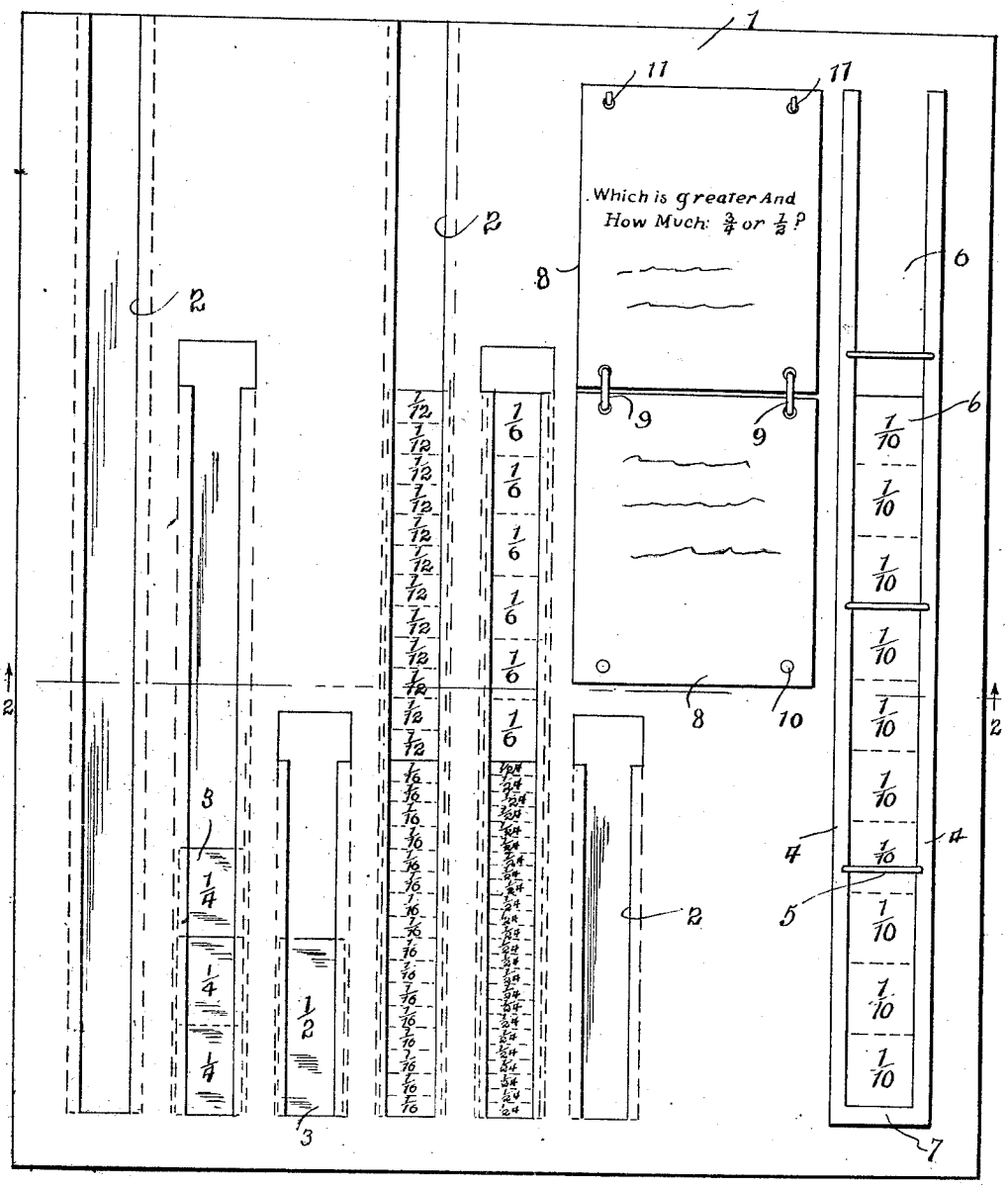


Fig. 1.

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2 Sheets-Sheet 2

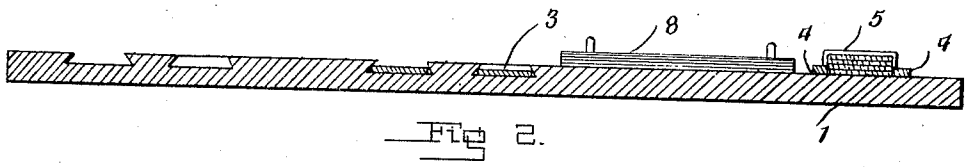


Fig 2.

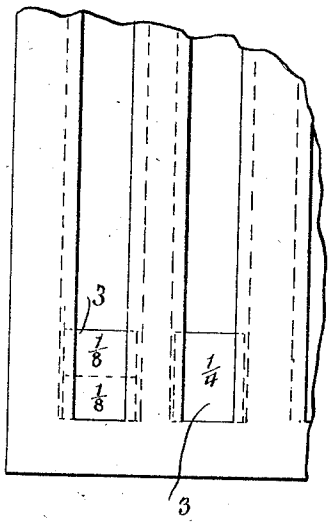


Fig. 3.

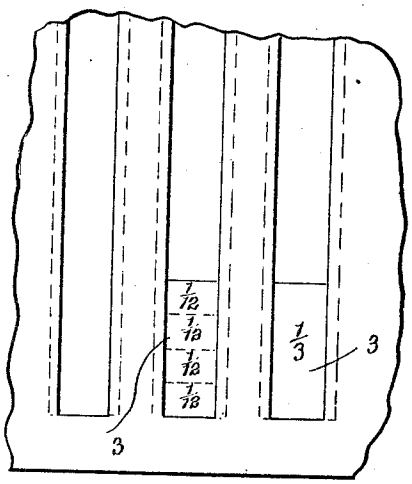


Fig. 4.

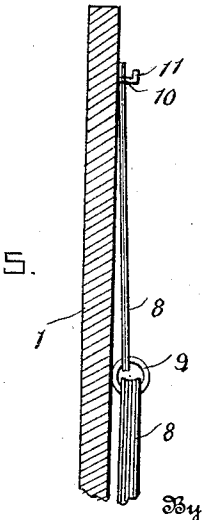


Fig. 5.

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UNITED STATES PATENT OFFICE.

ROLLIN G. DEMING, OF MANNING, NORTH DAKOTA.

EDUCATIONAL DEVICE.

Application filed December 8, 1926. Serial No. 153,416.

The present invention is directed to improvements in educational devices.

The primary object of the invention is to provide a device of this character so constructed that a child can be taught the rudiments of common fractions in an extremely simple and practical manner.

Another object of the invention is to provide a device of this kind so constructed that a child will be enabled to readily distinguish the fractional parts of a whole unit in such manner that they will be instilled in his mind.

Another object of the invention is to provide a device of this kind wherein a plurality of blocks designating fractional parts of a unit may be interchangeably arranged for comparison with other blocks bearing fractional parts of a unit to enable a child to readily see the relation of the fraction to a unit.

Another object of the invention is to provide a device of this kind capable of being suspended adjacent a black-board in order that examples selected may be worked upon the black-board and further, to combine with the device a series of charts bearing various examples in fractions.

In the accompanying drawings:

Figure 1 is a front view of the device.

Figure 2 is a sectional view on line 2—2 of Figure 1.

Figure 3 is a fragmentary view, showing one example.

Figure 4 is a similar view showing another example.

Figure 5 is a detail vertical sectional view through a part of the board and chart.

Referring to the drawing, 1 designates the board, which may be formed from any suitable material and is provided with a plurality of vertically disposed grooves 2, said grooves varying in length to accommodate series of blocks 3 bearing different fractional parts of a unit.

These blocks may be formed from paper or cardboard and are adapted to be readily placed in or removed from the grooves 2 as different examples are being taught.

A pair of vertically disposed laterally spaced strips 4 are suitably secured to the board adjacent one side thereof, and U-shaped members 5 supported thereby to provide a rack for holding a plurality of blocks 6. The lower ends of the strips 4 are connected by a bar 7 upon which the lower ends of the blocks 6 rest. It will be observed upon reference to Figure 1 that the outermost block 6 is divided into equal parts and each part marked to designate a fractional part of the whole block or unit. It is to be understood that a block is removed from the rack and cut into fractional parts of the whole in order that a child may readily follow the example. For instance, if the whole block is removed and cut into fractional parts the child will readily see that a certain number of fractional parts are contained in the whole unit.

The chart consists of a plurality of leaves 8 upon both sides of which the examples are printed, said leaves being suspended on rings 9 in order that the leaves may be conveniently turned to disclose various examples on the front and rear faces thereof. These leaves are provided with openings 10 adapted to engage the hooks 11 carried by the board 1 in order to hold a leaf with the printed example on the rear face in plain view.

Assuming that an example on a leaf of the chart is as follows:

Which is greater, and how much: 3/4 or 1/2? This problem is shown in Figure 1, where a block bearing 1/2 is placed in one groove 2 and a series of blocks bearing 1/4 placed in an adjacent groove. The child will readily see that the upper end of the block bearing 1/2 is in a plane with the upper edge of the center block of the series of blocks bearing 1/4. This clearly illustrates that 3/4 is greater than 1/2 and the fact that one block bearing 1/4 is above the upper edge of the block bearing 1/2 shows that 3/4 is 1/4 greater than 1/2. It will be observed that if another block bearing 1/2 is placed in the groove containing the blocks bearing 1/2, a whole unit is obtained, and upon adding another block upon the series bearing 1/4 will show that 2/2 equal 1 whole, as will 4/4. It is also apparent that blank blocks 6 may be used to place along side of the fraction-bearing blocks in order to readily determine the fractional parts of the whole unit.

Figure 1 also illustrates the fractional relation of 12/12 and 6/6 and 16/16 and 24/24. Thus a child, upon comparing the respective series of blocks can easily observe that 6/6 equal 12/12 etc.

In Figure 3 the example illustrates that 1/4 equals 2/8, whereas, in Figure 4, the

example illustrates that 1/3 equals 4/12 or vice versa. It will be understood that the grooves will be only occupied with blocks pertaining to the example being worked, so as not to confuse the mind of the child.

The fact that the whole blocks are divided into parts representative of the denomination of the fractional parts before the child helps greatly by object lesson or illustration, the illustration being performed in a mechanical way. For instance, a block is cut into two equal parts, or blocks, each representing 1/2 of a whole, the blocks representing the divisor of 1/2, as 1/4 or 1/8 show by their comparative length with respect to the 1/2 block the number of times each will be contained therein.

For the sake of clearness I have merely illustrated some simple examples which may be taught with the device, it being of course understood that the blocks can be interchaneably arranged to show clearly various examples in common fractions.

I prefer to color the board brown or some other suitable color, so that the blocks, which are of different colors will contrast so as to be readily discernible by the child when in their respective grooves on the board.

Having thus described the invention, I claim:

1. An educational device for teaching fractions comprising a board having grooves formed directly therein and varying in length, and blocks bearing fractional parts of a unit capable of being placed in series in the grooves to afford comparison with respect to each series.

2. An educational device for teaching fractions comprising a board having grooves formed directly in its front face and varying in length, blocks bearing fractional parts of a unit, capable of being placed in series in selected grooves to afford comparison with respect to each series.

3. An educational device for teaching fractions comprising a board, a rack carried by the board including spaced side strips and U-shaped members having their ends fixed to said strips, said rack serving to contain blocks, denoting whole units, said board having grooves therein, for receiving the second named blocks as whole units, or receiving blocks obtained by dividing the whole strips into fractional parts thereof.

In testimony whereof I affix my signature.

ROLLIN G. DEMING. [L. S.]